

Evaluation of Rehabilitation Services for Disabled Welfare Recipients

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CHRONIC DISEASE and disability in adult life often result in total dependence of the patient's family on public assistance. In 1955, when 40,000 persons in New York State were receiving aid-to-the-disabled, the State departments of health and social welfare and the division of vocational rehabilitation of the State department of education undertook a pilot project primarily to determine the extent to which severely disabled persons on public assistance could be restored to self-sufficiency or remunerative occupation. Hopefully, the project would also lead to more effective rehabilitation techniques and provide information on costs, personnel, and special facilities and services.

Inpatient rehabilitation services for the project patients were provided by the New York State Rehabilitation Hospital at West Haverstraw. The hospital was, at this time, in transition from an orthopedic hospital-school for children to a 204-bed comprehensive rehabilitation center for neuromuscular and orthopedic patients of all ages. Services were begun under the direction of part-time psychiatric and rehabilitation specialists. About 2 years later, another psychiatrist was appointed as hospital director and consultation services were augmented

in the major medical and surgical specialties. Additional equipment was installed to meet such increased needs as urologic surgery for paraplegics.

The large multidisciplinary staff of the hospital was gradually molded into a more effective rehabilitation team. The nursing staff was brought more actively into the rehabilitation program, and a counselor was assigned by the division of vocational rehabilitation. Prevocational evaluation was introduced early in the study and was refined through such means as adding definitive training in homemaking and realistic work-testing by short assignments in the appropriate positions within the hospital. Inservice education was provided for the entire staff within the hospital and through attendance at selected specialized courses. Unfortunately, newly created social work positions could not be filled during most of the study period.

An orientation booklet was mailed to each patient prior to his admission. Efforts were made to improve liaison with the local health and welfare departments and with the other interested agencies in the patient's home community to promote continuity of services after the patient's discharge. More comprehensive and more frequent reports were sent to these agencies, and their personnel attended special orientation institutes at the hospital. Since these changes were being made during the course of the project, the early project patients did not enjoy many of the program innovations.

Possible candidates for admission to the pilot project came to attention initially through review of the aid-to-the-disabled caseload by the

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area offices of the State department of social welfare, through the local departments of public welfare, through practicing physicians, or other agency personnel such as public health nurses and vocational counselors. Medical and social data on potential candidates were submitted to the State Rehabilitation Hospital for screening, and patients showing any potential for rehabilitation were accepted on the basis of this written information only. In keeping with the unselective intent of the project and mindful of the difficult and time-consuming nature of a valid prognostic evaluation, any doubts about rehabilitation potential were resolved in favor of the patient's acceptance. Of the first 702 patients referred for admission, 93.5 percent were accepted. To encourage participation by local departments of public welfare, hospital rates were reduced for patients under the pilot project.

From the start of the pilot project on April 10, 1955, to October 10, 1959, there were 514 admissions. These patients came from all parts of New York State, including New York City, the majority within a radius of 100 miles of the Rehabilitation Hospital.

Previous reports have presented the generally favorable results of rehabilitation in this severely disabled group, as evidenced by improvement in self-care, ambulation, and vocational potential from the time of admission to the time of discharge from the Rehabilitation Hospital (1,2). Status on discharge is necessarily an incomplete picture of the rehabilitation results, since it reflects only the patient's potential, which may not be fully realized in the home community. Disabled persons face special complexities of living which tend to militate against maintenance and use of gains made in a motivating hospital environment. The adequacy and proper use of services in the community are undoubtedly important elements in protecting these gains.

From the start of the project it was apparent that a followup study would be needed on the status of patients after they returned to their home communities. This study was undertaken by the office of public health social work which employed a social work consultant through funds provided under a special 3-year grant from the division of vocational rehabilitation.

Many individuals and local agencies assisted in the study.

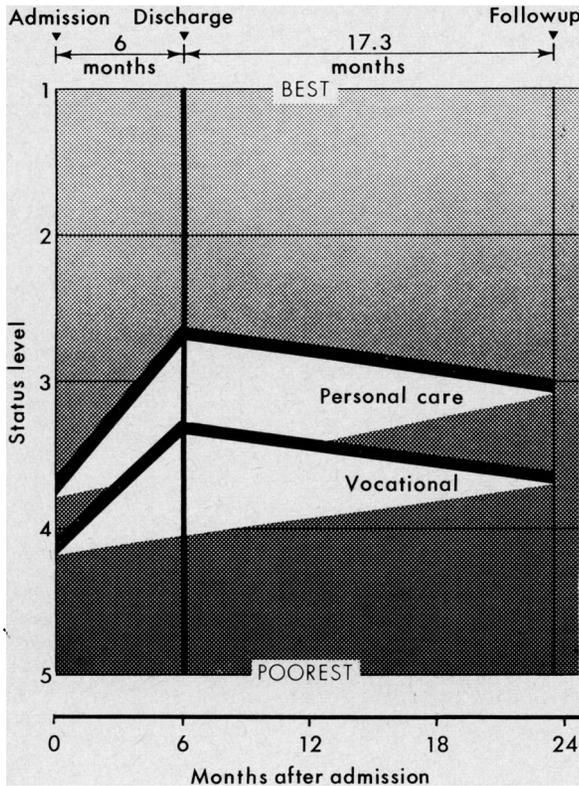
This report presents an evaluation of 99 patients who were studied intensively regarding their personal care, vocational, social-psychological, and overall status from the time of admission to the Rehabilitation Hospital to an average interval of 17 months after discharge.

Scope and Method

A sample was drawn, on the basis of evaluation data for 280 discharged patients, from 22 counties and New York City, representing six administrative areas of the State department of social welfare, stratified by size of caseload and metropolitan or nonmetropolitan status of county. This sample compared favorably with the first 500 patients admitted, in age, sex, diagnosis, and area of residence. One hundred and thirty-eight patients in the sample who had been discharged from the hospital at least 6 months before the followup study started were eligible for inclusion. However, 39 patients were not included: 15 had died; 3 had left the State before the study; 14, after comprehensive evaluation at the hospital, had little rehabilitation potential; and 7 were omitted for various other reasons.

Data on each patient, gathered through review of hospital and welfare department records, through observation of the patient in his environment, and through interviews with the patients, relatives, welfare workers, public health nurses, vocational rehabilitation counselors, and other local personnel, served as the basis for judging the patient's status. Subjective determinations were double-checked by an independent judge, and in doubtful cases consultation was obtained from other professional disciplines. The use of multiple sources of information, careful pursuit and clarification of inconsistencies in the data by the experienced interviewer, and special care exercised in classification have yielded reasonably reliable results. However, in considering the validity of the findings, it should be noted that it was necessary to compare patient performance as measured by tests at the hospital with actual performance observed, without tests, on followup evaluation in the community.

Average level of personal care and vocational status at admission, discharge, and followup



Major areas involving special classification schemes reported in this paper were personal-care, vocational, social-psychological, and overall status. Personal-care status reflects the patient's test performance on admission and discharge, or his actual performance on follow-up evaluation, in activities of daily living, such as eating, personal hygiene, dressing, ambulation and travel, management of assistive apparatus, and communication. Performance was rated by the following levels:

<i>Personal-care performance</i>	<i>Level</i>
Complete independence outside the home.....	1
Limited assistance required outside the home...	2
Complete independence at home.....	3
Some assistance required at home.....	4
Custodial care.....	5

Classification of vocational status reflected performance in vocational tests on admission and discharge, including practical employment situations in the hospital, as well as in household and child care activities and vocational performance in the community. In view of the

difficulty in predicting work opportunities, usually limited for the handicapped, the comparison between vocational potential tested in the hospital and performance in the community must be viewed with special caution. The following levels were used:

<i>Vocational performance</i>	<i>Level</i>
Independent full-time employment or household activities.....	1
Full-time employment or household activities, with special arrangements.....	2
Sheltered workshop or home employment.....	3
Home employment or household activities, with assistance.....	4
No employment or household activities.....	5

In addition to changes between categories in vocational and personal-care status, patients who remained in the same category were rated as "improved," "essentially unchanged," or "deteriorated," between admission and followup evaluation.

Rather than attempt to design a comparable scale of social-psychological adjustment, patients were rated as improved, unchanged, or deteriorated, at the time of followup compared with their status on admission to, and on discharge from, the hospital. Judgments were based on the patient's status in four areas: (a) personal satisfaction, defined as patient's subjective feeling of satisfaction with his total life situation; (b) motivation, his ability to mobilize physical and psychological resources to cope with the tasks and problems at hand; (c) family relationships, the quality and degree of satisfaction and mutual support between patient and key family members; and (d) interpersonal relationships, his ability to seek and use friendly relationships with persons other than immediate family.

The overall status of each patient was rated as improved, unchanged, or deteriorated between hospital admission and followup and between discharge and followup, by considering all aspects of his functioning, including personal care, vocational status, social-psychological status, living arrangements, and medical condition. It was not possible to give a precise mathematical weighting to all these factors or to other influences such as the patient's marriage or the death of a spouse. Although such factors inevitably affected the overall status rating

of the individual, it was not possible to measure their specific effects on either the individual or the group.

Characteristics of the Study Group

Of the 99 patients studied, 24 were disabled by advanced arthritis; 19 by hemiplegia; 12 by multiple sclerosis; 10 by malunited fractures; 10 by spinal paraplegia or quadriplegia; and 8 by amputation of one or more extremities. There were 16 miscellaneous conditions: cerebral palsy, 3; chronic poliomyelitis, 3; muscular dystrophy, 2; and 1 each of herniated intervertebral disk, peripheral neuritis, Friedreich's ataxia, osteomyelitis, low-back syndrome, kyphoscoliosis with nerve compression, congenital dislocation of the hip, and post-traumatic neurosis. Table 1 presents several characteristics of the study patients: age, sex, average duration of disability at the time of admission, and average personal-care status as rated on the previously described scale. The average length of hospitalization of the 99 patients in the study group was 6 months.

The degree of disablement of the sample patients at the time of their admission was obviously not brought out by the primary diagnosis alone. For example, among the first 150 patients admitted to the pilot project there was an average of 1.3 additional disabilities of such magnitude as to constitute a major handicap in themselves (2). These included mental retardation, chronic alcoholism, advanced cardiovascular disease, and severe visual or

hearing loss. The measurement of personal-care status on admission, while an impressive indication of a severely handicapped group, was influenced by 10 patients who were independent in personal care in the testing situation but who were unable to function adequately in an unprotected environment outside the hospital.

The average age of the patients was 49 years and the average duration of disability was 10 years. Considering the severity of disability, its long duration, and ages of the patients, as well as other factors shown below, the rehabilitation prognosis for the patients would be considered poor by usual clinical standards.

<i>Patient status before admission</i>	<i>Number</i>
Public assistance:	
Frequently or for long periods.....	62
Occasionally or for short periods.....	24
None	13
Living arrangements:	
Nursing homes.....	37
General hospitals.....	15
Own homes or boarding homes.....	47
Marital status:	
Married and living with spouse.....	32
Single	36
Widowed	15
Separated or divorced.....	16

Many of the patients on public assistance had come to the attention of local welfare departments after long periods of disability. Those who had lived in nonmetropolitan areas often lacked satisfactory work opportunities, living quarters, and sanitation facilities. Only seven patients had graduated from high school; the

Table 1. Characteristics of 99 severely disabled patients on admission to the New York State Rehabilitation Hospital

Diagnostic group	Number of patients	Percent males	Average age	Average personal status ¹	Average disability duration (years)
Total.....	99	47	49	3.8	10.2
Arthritis.....	24	38	50	3.6	13.0
Hemiplegia.....	19	37	57	4.3	4.8
Multiple sclerosis.....	12	50	43	4.1	10.7
Malunited fracture.....	10	50	61	2.9	2.6
Paraplegia or quadriplegia.....	10	80	31	4.6	2.4
Amputation.....	8	100	60	3.5	11.8
Miscellaneous conditions.....	16	25	42	3.3	21.1

¹ Based on levels described in text under Scope and Method.

majority had never gone beyond elementary school. Only 10 percent of the patients had an IQ exceeding 110; 40 percent were below normal.

Results

Two major aspects of the change in patient status, personal care and vocational, are shown by the triangle bases on the chart. It should be borne in mind that two discrete time intervals are involved, during which change for the group as a whole proceeded in different directions, as shown by the solid lines. The average personal-care status of the entire study group, as previously defined, was somewhat better than level 4 on admission; on discharge it had moved to better than level 3, but on followup it was somewhat less favorable. Similarly, the average vocational status moved from poorer than level 4 on admission to considerably better than level 4 on discharge, but fell somewhat below this high point at the time of followup. Breakdowns by diagnosis, sex, and age, not shown in the chart, reflect essentially the same pattern.

Table 2. Changes in 99 severely disabled patients from admission to New York State Rehabilitation Hospital to followup evaluation

Status	Number improved	Number no change	Number deteriorated
Personal care.....	65	13	21
Vocational.....	43	40	16
Social-psychological.....	37	34	28
Overall.....	60	9	30

The moderate downward movement after discharge was expected in view of the ages and diagnoses of the study group. Furthermore, as previously discussed, discharge ratings represented potential which could not always be realized in community living.

Personal-care status. As shown in table 2, 65 patients improved in personal care between admission and followup. (Using the total 99 patients as a baseline for computation, the numbers given closely approximate percentages.) Forty-eight of the 65 patients had improved

and 13 had deteriorated in personal care by one or more levels, as shown below.

Change in status	Number of patients
Improvement:	
4 levels (from custodial care to complete independence)	4
3 levels.....	6
2 levels.....	14
1 level.....	24
No change in level:	
Significant improvement.....	17
No change.....	13
Significant deterioration.....	8
Deterioration:	
2 levels.....	1
1 level.....	12

Seventeen patients improved without moving clearly from one level to another; for example, a 54-year-old man who, on admission, was bedridden and on complete custodial care, with severe flexion contractures of hips and knees. His contractures had been corrected, and at followup he could use his wheelchair for 7 hours a day, and was able to write, shave, and feed himself. Although he was rated in the lowest level both on admission and followup, this patient was considered significantly improved. Among the eight patients who had deteriorated without change in level was a 61-year-old arthritic woman, disabled for about 10 years, who had improved dramatically in the hospital, from level 5 to level 2. But at the time of followup she was back to level 5, bedridden because of an acute exacerbation in the arthritis and capable of less personal care than on admission.

Vocational status. Forty-three patients improved and 16 patients deteriorated in vocational status (table 2), as shown below.

Change in status	Number of patients
Improvement:	
4 levels.....	1
3 levels.....	4
2 levels.....	10
1 level.....	22
No change in level:	
Significant improvement.....	6
No change.....	40
Significant deterioration.....	9
Deterioration:	
2 levels.....	2
1 level.....	5

A 33-year-old woman who improved by four levels had been unable to work for more than 5 years because of disability recurrence, despite surgery, from a herniated intervertebral disk. After further surgery and intensive rehabilitation at the hospital, she had improved to complete independence and held a factory job at followup. Six patients improved without change in level, one of whom was a 44-year-old woman with arthritis of 17 years' duration and continuing low-grade disease activity. She had been rated vocationally at level 3, based on her potential for child care and simple sewing. At followup she was doing sewing of a type and amount exceeding her previous capacity. Among the patients who deteriorated without change in level was a 19-year-old woman with muscular dystrophy of 16 years' duration who was unemployable on admission. Despite improvement to level 3 in the hospital, progression of the disease at followup had obliterated any consideration of employment.

Social-psychological status. Thirty-seven patients showed improvement between admission and followup, 34 remained essentially unchanged, and 28 deteriorated (table 2). An example of improvement was a 79-year-old man whose leg had been amputated 2 years before admission. At one time an active participant in community activities, this man was friendless and discouraged on admission, and he was convinced that he was destined for mental as well as physical deterioration. During his hospitalization he was encouraged to take part in recreational activities, culminating in his successful production of a patients' play. On followup, his great improvement in social-psychological status had been maintained despite some physical deterioration, as evidenced by his good interpersonal relationships and especially in his calm and favorable outlook regarding his future.

Living arrangements. Prior to admission, 37 patients were in nursing homes and 15 in general hospitals. Of these 52 patients, 23 had moved to their own homes at followup, 13 having come from nursing homes and 10 from general hospitals. Review of the last 10 patients indicated that, in the absence of an intensive rehabilitation program, 4 would probably have been transferred to a nursing home. Of

the 47 patients in their own homes or in boarding homes before admission to the hospital, 6 were institutionalized at followup. Three patients with progressive multiple sclerosis had deteriorated physically and in personal-care ability. One patient had developed an unrelated condition which required his transfer from a boarding to a nursing home, and for the two others, adverse social factors required nursing home placement.

Overall status. The status changes in the factors described above did not necessarily occur in a parallel manner. A patient may improve in one area but deteriorate or show no change in another. For example, 26 patients improved in personal care but not in vocational status, and 4 improved vocationally but not in personal care. Vocational improvement without change in personal care is exemplified by a 61-year-old woman with a malunited fracture of 11 months' duration. She was rated as completely independent in personal care throughout the study period. However, her vocational rating on admission was level 3, since her household activities could be performed only slowly and with considerable anxiety. Through homemaker training and with psychological support her housework was improved, and she was rated level 2 at followup.

In the same vein, it is impressive that 32 patients improved in personal care but not in social-psychological status, and 4 improved in social-psychological status but not in personal care. An example of the former was a 30-year-old paraplegic, well motivated and happy about the prospect of rehabilitation, who made considerable gains during hospitalization and, on discharge, was rated level 1 in personal care. At followup, the patient had maintained his physical gains, but was discouraged over lack of work opportunities; he felt trapped and isolated and showed no motivation for initiating any change in his situation.

Because of the disparate movements in the factors measured, no single factor could be used as a reliable index of the total results obtained. The overall status rating previously defined as a composite of the individual factors was therefore used for further analysis. On this basis, 61 percent of the patients improved in overall status, 30 percent deteriorated, and 9 percent

were essentially unchanged (table 3). Among the women, 35 of 52 (65 percent) improved, compared with 26 of the 47 men (55 percent). For the group as a whole, improvement was inversely related to age, with 73 percent improved in the age group under 40 years, 63 percent in the patients aged 40-59, and 44 percent in those 60 years and over. Among the women alone, however, the percentage showing improvement was greatest in those aged 40-59 years, apparently because of their diagnostic distribution.

Improvement in overall status appeared most

frequently among patients disabled less than 2 years (79 percent) and in patients with disability of 20 years or more (80 percent). This apparent discrepancy seems also related to the diagnostic categories.

There was above-average improvement in single patients (72 percent); somewhat below-average improvement in patients married at time of followup (58 percent); and improvement in 50 percent of the patients widowed, separated, or divorced at the time of followup. The expectation that marital ties would favor rehabilitation was not borne out in this study,

Table 3. Changes in overall status rating of 99 severely disabled patients from admission to New York State Rehabilitation Hospital to followup

Characteristics of patients	Number of patients	Percent		
		Improved	No change	Deteriorated
Total.....	99	61	9	30
Males.....	47	55	11	34
Females.....	52	65	8	27
Less than 40 years.....	22	73	9	18
40-59 years.....	52	63	10	27
60 years or over.....	25	44	8	48
Males:				
Less than 40 years.....	12	75	8	17
40-59 years.....	24	50	12	38
60 years or over.....	11	45	9	45
Females:				
Less than 40 years.....	10	70	10	20
40-59 years.....	28	75	7	18
60 years or over.....	14	43	7	50
Duration of disability:				
Less than 2 years.....	28	79	4	18
2-19 years.....	51	43	12	45
20 years or over (includes from birth).....	20	80	10	10
Marital status at followup:				
Single.....	36	72	6	22
Married.....	31	58	10	32
Other.....	32	50	12	38
IQ:				
60-79.....	21	38	10	52
80-99.....	47	62	11	28
100-119.....	20	75	5	20
120 or over.....	2	100	0	0
Unknown.....	9	67	11	22
Public assistance after disability:				
None.....	13	54	8	38
Occasional or short.....	24	75	4	21
Frequent or long.....	62	56	11	32
Diagnostic group:				
Paraplegia/quadruplegia.....	10	90	0	10
Hemiplegia.....	19	68	5	26
Arthritis.....	24	62	17	21
Malunited fracture.....	10	40	10	50
Multiple sclerosis.....	12	25	8	67
Amputation.....	8	25	0	75
Miscellaneous conditions.....	16	88	12	0

since the best results were found among the single patients. This may be ascribable to the relative youth of the single patients. Also, more than half of the single patients lived with families, a factor associated with favorable outcome in both married and single patients.

There was a direct relationship between IQ and improvement in overall status. Of the 90 patients whose IQ was determined during their hospital stay, overall improvement was found in 38 percent of the patients with an IQ between 60 and 79; 62 percent of those with an IQ between 80 and 89; 75 percent of those with an IQ between 100 and 119; and in 100 percent with an IQ of 120 or over.

The overall status on followup was analyzed in terms of public assistance history between onset of disability and admission. Of those patients on public assistance occasionally or for short periods, 75 percent had improved, compared with 56 percent who had been on public assistance frequently or for long periods. There was improvement in only 54 percent of the patients who had never been on public assistance prior to admission, contrary to the expectation that this group would show above-average improvement. Almost half of the last group consisted of patients with multiple sclerosis or malunited fracture, who, as shown below, manifested considerably less improvement than the study group as a whole.

Findings in diagnostic groups. The greatest improvement in overall status between admission and followup was shown by the paraplegics and quadriplegics, 9 out of 10 of whom were improved. This was largely related to favorable results in personal care and living arrangements. The group that improved in personal care had moved from level 4 on admission to somewhat better than level 3 at followup. Seven of the nine patients not in their own homes prior to admission were in their own homes at followup. In contrast, only 4 of these 10 patients improved in vocational status, the average gain among the improved group being almost two levels to level 2. Inasmuch as 7 out of the 10 paraplegics and quadriplegics constituted more than half of the men under 40, obviously, their outcome is strongly reflected in the outcome for this age-sex group as a whole. Half of the paraplegic and quadriplegic pa-

tients also fell into the more favorable group of study patients who had been disabled for less than 1 year.

Outcome among the hemiplegics was generally favorable, with 68 percent of the 19 patients improved in overall status. The sharpest improvement was in personal care, with 79 percent moving an average of two levels to level 2. Almost half (47 percent) of the patients improved vocationally by an average of two levels. Half of the 14 hemiplegics not in their own homes on admission had been restored to their homes at followup. Two-thirds of the hemiplegics were women aged 40-59 years, an age-sex group characterized in the entire study group by above-average improvement in personal care, vocational, and overall status. Eleven of 12 patients with hemiplegia of less than 2 years' duration showed improvement in overall status.

Average improvement was found among the arthritics, with 62 percent improved in overall status. Seventy-five percent of these patients improved in personal care on an average of a little more than one level, and somewhat more than half improved in vocational status on an average of one level. The 15 arthritics who were in their own homes prior to admission were still in their homes at followup, and one additional patient was returned to his home from other living arrangements. As in the case of the hemiplegics, there was heavy representation of women aged 40-59 years, a group characterized by above-average outcome in the study population as a whole. There was above-average improvement among arthritics disabled for 20 years or longer, thus favorably influencing the group of this duration.

In the remaining major diagnostic groups, improvement in overall status was below the average for the entire study population. In the 10 patients with malunited fractures, 40 percent showed improvement in overall status. Nevertheless, 50 percent improved in personal care an average of two levels to complete independence outside the home. Only 25 percent of the 8 amputees and 12 multiple sclerotics improved in overall status; but 50 percent of the amputees improved in personal care, whereas only 25 percent of the multiple sclerotics showed improvement in this area.

The heterogeneity of the 16 remaining patients with miscellaneous conditions precludes any attempt at detailed analysis. However, this group apparently had a large proportion of patients with a relatively favorable outcome, which influenced the outcome of the total group in which disabilities had been present for 20 or more years.

Financial Aspects

In the face of many anticipated technical difficulties, an attempt was made to obtain some idea of the effect of rehabilitation on medical and general public assistance expenditures for the study group. It is clear that the monetary effect of various factors which influence actual and estimated savings cannot be readily calculated. Many of the patients had not been on public assistance for the full year preceding admission to the Rehabilitation Hospital, either because of the recent onset of disability or recent exhaustion of personal resources. Acute hospitalization increased the public assistance costs in some cases before and after rehabilitation.

With these limitations in mind, data on expenditures for medical needs, including nursing home care, indicated a reduction of 23 percent during the year after discharge from the Rehabilitation Hospital from \$98,000 spent during the 12 months preceding admission. There was no apparent change in nonmedical public assistance expenditures between the two periods.

Estimated additional public assistance expenditures averted by rehabilitation, were, conservatively, an additional \$46,000 for medical purposes during the year after discharge, or \$57,000 for all purposes during this period. For example, in the absence of rehabilitation, 20 of the patients discharged to their own homes would have had to be placed in nursing homes.

The earnings of the study group before and after hospitalization showed no net change during these periods. Six patients were financially independent during part of the year prior to admission, until their earnings ceased suddenly with the onset of their disabilities. Despite rehabilitation, none of these patients returned to remunerative employment during the year after

discharge. On the other hand, seven patients who were self-supporting during the year after discharge had been on public assistance during the comparable period prior to admission. This apparent balancing out of gains and losses is misleading in that, in general, the losses may be ascribed to disease and the gains to rehabilitation.

Discussion

Important rehabilitation gains were achieved and maintained in the majority of this group of severely disabled individuals. There were also indications of the influence of diagnosis, age, sex, and other factors on the results, but the size of the study group did not permit drawing firm conclusions concerning the relative importance of the various factors.

Most of the gains made during hospitalization were being retained and used at the time of followup, despite the adverse effects of aging, progression of disease, or nonavailability of suitable work opportunities or living arrangements in many cases. The average status shown in the chart masks the finding that 46 of the patients showed continuing gains after discharge from the hospital.

Community agencies made a major contribution in assisting patients to adapt to the complexities of community living. For example, local welfare departments, in the course of providing maintenance and medical care, met specific needs for such equipment as wheelchairs and lifting devices. The health departments provided public health nursing and physical therapy services. The field vocational rehabilitation personnel provided counseling, training, and work placement. Volunteer efforts were remarkable in some instances, such as the construction by neighbors of a ramp which enabled one patient to enter and leave his home.

Even with all these services, it was found on analysis of the individual cases that more than half of the patients could probably have been benefited by additional services, which were not provided for want of local resources or because their need was not recognized. The most frequent need was for counseling services to assist patients with personal, family, and community adjustment problems that interfered with maxi-

num rehabilitation. The findings also underscore the importance of improving coordination among the agencies concerned.

Reference has been made to many changes made at the Rehabilitation Hospital as a result of experience gained in the pilot project. This followup study points to the need for further intensification of medical supervision of this difficult type of patient and for improved coordination of services within the hospital. It indicates the responsibility of the hospital to offer clinical followup services when specialized facilities are not available in the patient's community. Above all, the study discloses the need for the systematic development of procedures for improved communication with referring physicians and community agencies to ensure that the hospital provide the information they need in their ongoing services to patients.

Summary and Conclusions

A pilot project to determine the value of comprehensive rehabilitation services to severely disabled recipients of public assistance was conducted among patients admitted to the New York State Rehabilitation Hospital at West Haverstraw. Subsequently, a followup study was made on a representative sample of 99 patients to evaluate their personal-care, vocational, social-psychological, and overall status

from the time of admission to the hospital to an average interval of 17 months after discharge.

The average age of the study patients was 49 years, the average duration of disability was 10 years, and the principal handicapping conditions were advanced deforming arthritis, hemiplegia, multiple sclerosis, paraplegia, quadriplegia, malunited fractures, and amputations.

Results of the followup study indicated that 65 patients improved in personal-care status, 43 improved in vocational status, 37 improved in social-psychological status, and 60 improved in overall status.

The study pointed up the need for closer coordination within the hospital, between the hospital and the community agencies, and among the community agencies themselves. The necessity of continuing services in the community was also indicated, in order to assure the retention and use of gains made in an intensive inpatient rehabilitation program.

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International Vaccination Certificate Forms

International certificates of vaccination are now being printed in booklet form (PHS-731, Rev. 6-61). The old forms (PHS-731, Rev. 1/57) are still acceptable for international travel, however.

The new booklet contains vaccination certificates as described in the International Sanitary Regulations and approved by the World Health Organization except that addresses of the physicians performing the smallpox and cholera vaccinations are requested. The addresses will help health authorities in identifying vaccinators before approving the certificate. The booklet also includes a personal health history form and instructions for the traveler and his physician concerning immunization requirements.

The certificate booklets are on sale by the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C., for 10 cents a copy or \$5 per 100.